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ABSTRACT

In this study, the status ordering of a four-man group working on a task requiring discussion and decision was predicted on the basis of status characteristic theory. Two of the group members were white; two were black. They were matched as to age, height, and also on a combined index of socioeconomic status and attitude toward school. The difference in the value of the status characteristic of race proved to be associated with differences in rank order of the number of acts initiated, with the whites much more likely to have a higher rank in the groups than the blacks. The whites were also more likely to be influential in the making of group decisions than the blacks, expecially where the decisions were contested. In addition to some very quiet blacks who helped account for these marked overall results, there were many moderately active and influential black subjects and three black subjects who were both "high" on influence and initiation. Some groups were clearly black-dominated. Certain differences in interaction style were noted between blacks and whites; and these differences suggested different retraining techniques that might be used. [Not available in hard copy due to marginal legibility of original document.] (Author/JM)

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TECHNICAL REPORT NO. 1

INTERRACIAL INTERACTION DISABILITY*

by

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INTRODUCTION

What happens when schoolboys of the black and white race work together on a new group task in an integrated setting? Do we produce the desirable "equal status" relationship that will reduce the prejudice of the whites and increase the sense of confidence of the blacks? These are questions with obvious significance for education today, because of the wide debate over school integration and the attempt to plan significant multicultural experiences. It is often assumed that one has only to bring the children together inside the same building for the development of balanced relations between the races. At most, it is often felt that it will be necessary to guard against the experience of overt hostility which is clearly felt to make things worse rather than better.

It is our contention that "equal status" interaction does not automatically develop when white and black children work together on a task. Both past small group experiementation and the work on status characteristic theory would lead one to expect that the relations between the races would show imbalance in the same direction as in the outer society. We have called this phenomenon, "interracial interaction disability."

This study attempts to describe the phenomenon of interaction disability as a relatively simple but general component of many complex social situations such as school integration. What is interracial interaction disability? Put as simply as possible, when whites and blacks work together on a cognitive task which is new to the participants but is regarded as important, both races are likely to be handicapped by built-in expectations

for superior performance and greater participation on the part of the whites as compared to the blacks. Even with no prior knowledge of the capabilities of the individuals involved, there is a diffusion from the most general societal principle of superior-inferior relationships of blacks and whites. What makes the problem such a difficult one to attack is the self-fulfilling nature of the interaction process: the white expects the black to participate on a lower level in quality and quantity; the black accepts the white's evaluations of him as less capable and therefore fulfills these very expectations of inferiority--thus proving to himself and to the whites that he cannot participate in a cognitive task on a truly equal status basis.

We will describe the phenomenon as an instance of the operation of diffuse status characteristics in a group of boys who have no way to judge each other's competence except by race and the evaluations they make of each other during the course of the task. Nineteen 4-men groups of junior high school boys play a game of strategy which requires that the group make decisions as to which path on a game board they should take. The groups of boys are systematically observed, using a four category observation scheme based on the theory.

Once we have described the nature of the problem, we will be able to proceed to an experimental manipulation in our next study aimed at the production in a laboratory of more nearly "equal status" conditions. The results of this first study provide a baseline situation, with which we will be able to gauge the changes produced by treatments.

THEORETICAL AND EXPERIMENTAL BACKGROUND

In two studies conducted at a northern university, Katz, Benjamin and Goldston found that black students displayed marked social inhibition and

subordination to white partners in a cooperative problem-solving situation. Black subjects made fewer proposals than did whites and spoke more to white proportionately than to one another. Even when the subjects were matched on intelligence and made to display equal ability on certain group tasks, blacks ranked whites higher on intellectual performance, preferred one another as future work companions and expressed less satisfaction with the group experience than did whites (Katz & Benjamin, 1960; Katz, Goldston & Benjamin, 1958).

Preston and Bayton (1941) found that when students at a black college were told that their own scores on intellectual tasks were the same as the average scores of white students, they tended to set their goal levels lower on the next few trials than they did when told that their scores equalled those of other blacks. Other studies highlight the finding that blacks can behave in an entirely different fashion when faced with a white frame of reference as compared to a black frame of reference (Hatton, 1965; Katz, Epps and Axelson, 1964; Katz, Robert & Robinson, 1965).

We have chosen to conceptualize the phenomenon in terms of status characteristic theory now being developed by Cohen, Berger and Zelditch (Berger, J., Cohen, B. P. and Zelditch, M., 1966). Status characteristic theory explains the way in which prior status factors determine the emergent power-prestige order in a task oriented group. To put their ideas as briefly as possible, race is seen as a diffuse status characteristic for the following reasons: (1) There are different states of the status characteristic (black and white); and associated with these states is a system of beliefs involving valued and disvalued characteristics (for example, the black is associated with many disvalued characteristics such as laziness and rowdiness) (Johnson, 1944). (2) A state of a diffuse status characteristic also involves expectations or beliefs about how well actors

of a given state will perform in a wide range of situations. Associated with the black race is the general expectation in our society that he will do less well in a wide variety of valued tasks.

Given the presence of a high and low value of a diffuse status characteristic combined with certain task conditions, the power and prestige order developing in the group should show the same ordering as the values of the diffuse status characteristic. Scope conditions include a task with differing outcomes, having differing evaluations. The task must also require the actors to take into account each other's behavior and must be sufficiently ego-involving so that the participants are committed to successful completion. There must also be some element of competence involved in the task which is perceived as instrumental for a successful outcome. There must be no other basis for discriminating between the participants other than this diffuse status characteristic. Lastly, the competence involved must not have been previously specifically associated with or dis-associated from the diffuse status characteristic (Berger, Cohen, Conner & Zelditch, 1966, p. 47).

Under these conditions the theory predicts that the power and prestige order of the group will be affected by the diffusion process. We are directed to look at three dimensions of the group interaction; action opportunities, performance outputs and unit evaluation. The distribution of all of these dimensions taken together is called the "observable power-prestige order" (Berger, Cohen & Zelditch, 1966, p. 40). We can expect to find a high intercorrelation between the components of this order. Furthermore, these indices of interaction should correlate with measures of actual influence over the final group decision.

Three major predictions may be derived for our groups from this theory.

HYPOTHESES

In a four-man problem-solving group made up of two white and two black male junior high school students:

1. We will find white subjects will have a higher rate of interaction than black subjects who are working on a group task.
2. We will find white subjects having more influence over decisions made by the group than black subjects.
3. The indices of interaction and influence over the group decisions should be positively related.

PROCEDURE

The Group Task

The subjects were required to work as a team on an experimental game developed expressly for this study. This game, called "Kill the Bull," requires the group to make fourteen decisions as to which way they will proceed on a game board. After having decided on direction for each turn, a die is rolled by the Experimenter, and the group score is affected by the addition or subtraction of score points on the square the playing piece lands.

The score is cumulative; the subjects are informed of the highest score that a group has ever earned (a fictional number). The subjects are instructed that this is not only a game where luck is involved, that it requires strategy. If the group chooses certain paths, they will be likely to run up a higher score but will risk never reaching the goal and thereby lose all. The "hot paths" on the game board have a higher probability of reaching the goal, but the possible points to be earned are low. The subjects

are informed of these possibilities. After the subjects reach a decision, they place the playing piece in a manner so as to signal the Experimenter their decision. The goal of the game "Kill the Bull" must be accomplished within 14 turns or all points are forfeited. Subjects played two rounds of the game.

The instructions are given by a combination of media including a tape recorded voice, a Host Experimenter who reinforces and demonstrates each point, and a large poster with the major rules. During the pretest phase, these steps were found to be necessary for the boys to show a good understanding of the rules as measured by a quiz we used at that development phase. Because our subjects were quite overawed by being brought to the University, we used an undergraduate Host Experimenter who dressed in casual clothes and did not appear to use a script. Nevertheless, his lines were carefully memorized and each gesture of explanation used was standardized. While the game was being played, he stayed very much in the background, so as to avoid reinforcing any particular participant.

The game is thoroughly ego-involving and rarely fails to provoke lively discussion and disagreement between participants. They will sometimes go on at length discussing the relative merits of one member's suggested path vs. a rival suggestion. Although they will rarely run down another member's decision, overtly, they use the technique of making a counter suggestion that is quite incompatible with a strategy they find unacceptable.

Selection of Subjects

The design of the study called for boys who did not know each other previously, so that they would have no prior grounds for assigning competence. They also had to be indistinguishable from each other on any status grounds

except race, because we only wanted to vary the racial status characteristic and not a social class characteristic. Observed differences might then be attributed to social class. We did not want some highly verbal middle class youngster who used words like "probability" in connection with the game to be combined with a boy from a poor uneducated background. Therefore, subjects were matched on an index based on a measure of parental education, occupation, and two attitude scales measuring level of aspiration and adjustment to school.

The attitude scales were developed by Wallin & Waldo in their study of junior high school students (Wallin & Waldo, 1964). Subjects were given a "High" rating if they were high on any three of the following four factors:

a. Level of Aspiration Scale Score

b. School Adjustment Score

c. parent education (if father had four years of college or more and mother had some years of college)

d. father's (or mother if father is absent) occupation--a white collar occupation meant a "high rating."

Subjects were given a "Low" rating if they were low on three of these same four factors. A "Low" value of parental education was considered as less than a high school education. A "Low" level of occupation was defined as unskilled labor. All other cases were called "Middle."

The rationale for combining socio-economic indices with attitudinal and aspirational indices was our interest in predicting the behavior of a child who was likely to appear especially academically-oriented and college-bound. With the combined use of these indices, an unusually bright child who was very upward mobile from a poor uneducated background would fall in our "Middle" rather than our "Low" category. Children who were upward mobile from working class background where the parents were high school graduates might fall into our "High" group.

All subjects answered these economic and attitudinal questions during the recruitment process. Some subjects were recruited through junior high school counseling offices. Other subjects were recruited directly in their homes through the use of college students who called on homes in white and black working class areas. The recruiters working in black areas were themselves black. Subjects were offered $1.50 an hour for participation in the study which was described as a study being conducted by the School of Education. They were told that they would be asked to play a game with three other boys whom they did not know. If they were interested and their parents consented, they filled out the questionnaire. Transportation to the University was provided.

On the basis of the questionnaires, which were only administered to seventh and eighth grade boys, two black and two white subjects, of approximately the same height and with the same status rating were selected.

Seating Position

The subjects were seated around two sides of a triangular table so as to facilitate the use of a TV camera in front of the game board filming the faces of all four participants as they talked. The seating positions were standardized by means of a marked cloth placed under the table and chairs. Subjects were assigned to chairs by a shuffled pack of cards with the four numbers on them. Because some seating positions did not offer quite as convenient access to the playing board as others, after the first round of the game, seating positions were reassigned on the basis of one of four rearrangements which insured that no person would be in a relatively inconvenient seat twice. One of the four rearrangement patterns is selected by having a subject choose a card from a shuffled deck of four cards.

The Scoring System

The groups were recorded on videotapes which were then scored in terms of observation categories based on status characteristic theory. Both black and white observers were trained on the following observation categories:

1. Performance Output (a speech relevant to the task, such as, "We would get more points going down this way,")

2. Action Opportunity (some action requiring response from another person such as "Which way do you think is best?")

3. Negative Evaluation (disagreement, giving a counter suggestion that is incompatible with the suggestion just offered, or lowering another person's status);

4. Positive Evaluation (agreement, praising, building up another's status).

A speech is any number of sentences given by a subject which is not interrupted by another person's speech or which is not changed into another classifiable category. The observer records who makes a speech, what kind of a speech it is (which of the four categories) and who is the recipient of the speech. A record is kept of the color and seating position of each of the subjects.

This scoring system is related to that used by Bales. They are actually "lumped" Bales'-categories. They are different in that the unit of scoring is an uninterrupted speech rather than a single thought. Also, although the categories are mutually exclusive, they are not exhaustive.

An additional measure of influence is taken from the videotape records. This consists in recording how many unique suggestions as to paths on the game board each member contributes. Some suggestions which are offered non-verbally are picked up by this method which are not scorable by the previous method. A second influence measure records the member whose suggestions actually become the group decision on each turn. This is judged

from which way the playing piece is finally put down on the board before the Host Experimenter is signalled.

Reliability of the Scoring System

For each of the 19 groups run, there were four observers, two black and two white. The variation in race of observer was included to check on the possibility of bias in scoring due to the race of the observer. There was no systematic pattern of disagreements according to the race of observer.

Two measures of reliability were taken: a chi-square test for the significance of the differences between observers and a coefficient of concordance between observers. Using a chi square test, if there are no significant differences between observers, there is a greater degree of reliability than if there are significant differences. It is easier to reach a .05 level of significance if four observers are analyzed at once than if two observers are compared. Chi square tests were run comparing the two white observers, comparing the two black observers and comparing all four observers at once.

Table 1 gives the number of chi square values that were at the .05 level of significance or less for nineteen groups. Reliability of the number of acts initiated by each actor is examined as well as reliability in assignment of a particular type of act to a given actor. Thirdly, reliability of the identification of the recipients of acts is computed. With the use of this statistic, the table shows that reliability of acts initiated was excellent. The reliability of recipients and type of act was only fair with the chi square value reaching a .05 level of significance for most groups as soon as four observers were examined at once. It should be pointed out, however, that considering the difficulties past studies have reported in achieving good reliability for recipients of acts, the frequency with which

two observers showed a high level of agreement indicates that this scoring scheme has a better than typical reliability.

Table 1

Outcome of Chi Square Significance Tests for Reliability for Three Dimensions of Interaction: By Race of Observer

	Initiated Acts			Type of Act			Recipient of Act		
	4 Obs. (N=19)	2 Bl. Obs. (N=19)	2 Wh. Obs. (N=19)	4 Obs. (N=19)	2 Bl. Obs. (N=19)	2 Wh. Obs. (N=19)	4 Obs. (N=19)	2 Bl. Obs. (N=19)	2 Wh. Obs. (N=19)
No. of Groups where Chi-Square was Non-Significant	18	18	19	6	16	16	7	14	15

Using the coefficient of concordance as a measure of reliability among all four observers, 11 out of 19 groups show a coefficient of .80 or higher on "Type of Act" (mean value = .77) while 12 out of 19 groups show coefficients this high on "Recipient of Act" (mean value = .75). With this alternative statistic, there is a more favorable picture of the reliability of "Type of Act" and "Recipient of Act" than with the chi square criterion. Nevertheless, a conservative view of the reliability problem suggests that much more weight be put on indices dealing with number of acts initiated than analyses involving the other two dimensions.

Having considered this picture on unreliability very conservatively, we decided to select one or two "best" observers from each group. Mean values for all observers were computed on Acts Initiated, Performance Outputs, Action Opportunities, Positive Evaluations, Negative Evaluations, and Total Acts Received. We then computed the summed mean difference for each observer from

the group mean on each category. The two observers with the smallest difference from the group mean were then chosen; and their observations were averaged for the final data analysis. If there was only one observer who was clearly closer to the mean than any one else, his scores were selected for the final analysis.

The reliability for recipient is a classic problem in small group observation. The difficulty of telling to whom a remark is addressed is so great that reliability on this dimension is often not even computed. We had the advantage of videotape records, which could be played several times; and it is to this we attribute our modest success in this area.

In choosing dimensions for analysis we consistently remain with the dimensions where our level of reliability is very high, such as the number of acts initiated and the rank on initiation. The reader should keep in mind the degree of reliability achieved for the different type of dimensions being examined.[1]

Relation between the Interaction Dimensions

We need to gain some confidence in the numbers we have assigned to the actions of the subjects. Even though the assignment of initiators and recipients can be done reliably, we have no idea what a higher or a lower number of assigned acts means. This is especially important to determine since we have departed from the conventional practice of interaction scoring by calling a speech, even though it is six sentences long "1 act" as well as a single word speech. We can gain some construct validity by examining

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[1] The author is indebted to Mr. Frank Satterwhite for the basic work on reliability in this project.

the relationship between rank on one of our categories and rank on another for the same individual. There are certain theoretical ideas about the inter-relationship of the dimensions of interaction implicit in status characteristic theory. If the various quantities we have assigned with our particular operational definitions show the predicted relationship, we will gain some confidence that the ordering of the numbers of the various categories have the proper theoretical relationship to each other.

The dimensions of interaction are theoretically supposed to be highly related to one another. Firstly, the more a person gives out acts, the more acts he is supposed to receive. Secondly, the more a person performs on the task, the more evaluation, both positive and negative, he should receive. Lastly, if a person is given more action opportunities, he should give out with more Performance Outputs. Table 2 shows the degree of association, as measured by the h test, of rank on one of these dimensions with rank on another category.

Table 2

Relationship between an Actor's Rank on Different Interaction Categories

	h value[2]
Rank on Acts Initiated vs. Rank on Acts Received	.85
Rank on Performance Output Initiated vs. Rank on Negative Evaluation Received	.46
Rank on Performance Output Initiated vs. Rank on Action Opportunities Received	.54
Rank on Performance Output Initiated vs. Rank on Positive Evaluation Received	.62

The level of association appears quite high, so that we can now assume that our measuring system hangs together in a meaningful way.

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[2]The h test is a measure of association between rank orderings. Its values range from -1.00 to +1.00. Wallis, W. A. & Roberts, H. V. Statistics: A New Approach, Free Press, Glencoe, Illinois, 1956, p. 283.

RESULTS

Initiation

It is consistently more meaningful in the analysis of these data to use the group as the unit, rather than the individual. The performance of one individual is closely related to the actions and reactions of other members of his group. The simplest way, then, to test our prediction on the relationship of the status ordering in our groups to the status characteristic of race is to look at the rank order on initiation rate by race in the nineteen groups run for this study. Table 3 shows this relationship.

Table 3

Relationship of Rank Order on Initiation to Race of Actor in Nineteen Groups

Rank	No. of Groups Where S with this rank is Black	No. of Groups Where S with this rank is White
High Rank	5	14
Second Rank	6	13
Third Rank	14	5
Low Rank	13	6

The results on initiation rate bear out the first prediction and show a clear-cut relation between rank order on initiation rate and race; whites were much more likely to be high ranking initiators and blacks were much more likely to be low rank initiators. The fact that there are quite a few black subjects who are very quiet both relatively and absolutely during the game greatly affects all the results we will present. Also important are the five groups where the black subject was high rank initiator.

The data across individuals are also informative (See Table 4). The mean difference in acts initiated of the four types of acts and the difference in total acts given and received, although not large, is in the predicted direction for each comparison between racial groups. The one exception is the mean difference in acts received which is quite large.

Table 4

Mean Number of Acts Initiated by Race of Actor

Type of Act	Mean for Black Subjects	Mean for White Subjects
Total Acts	35.7	48.8
Performance Output	14.9	21.7
Action Opportunities	6.2	8.7
Positive Evaluations	7.4	9.8
Negative Evaluations	5.6	9.5
Received Acts	25.0	38.7

N = 38 for both black and white

Figure 1 illustrates the degree of overlap of the distribution of the initiation rates of white and black subjects; in the middle range many individuals of the two races show the same initiation rates. What is noticeable is the racial difference among the extreme scores: the very low scorers tend to be black; the very high scorers tend to be white. Also noticeable are the peaks of the distributions, with the peak for the distribution of black subjects falling in a lower initiation rate interval than the peak for white subjects.

The importance of what kind of group the individual acts in is shown by the following analysis, where the mean number of acts initiated is again

compared for whites and blacks, but the rate of interaction for the group as a whole is controlled. Here, the mean differences between races are very sharp for groups with a high or a low level of interaction. It is in the middle range groups that the mean difference disappears.

Table 5

Mean Acts Initiated for Blacks and Whites:
Holding Interaction of the Group Constant

Level of Group Interaction	Mean Acts Initiated	
	Black Subjects	White Subjects
*High	40 (N = 8)	80 (N = 8)
Medium	39.3 (N = 20)	39.6 (N = 20)
Low	17.8 (N = 10)	34.7 (N = 10)

*High = over 200 acts; Medium = 140-199; Low = 80-139 acts initiated.

Influence

The theory of status characteristics predicts that power and prestige should be highly correlated with influence over the final group decision. Because we could study the video-tapes at leisure, we were able to develop a behavioral measure of influence which was not the same as initiation rate. The instructions to the group requested that they arrive at a decision as to the way they wished to proceed on the game board; they were to place the pointer in the direction they wanted to go. Each group made a range of 12-18 separate suggestions. Some participants made verbal suggestions, some non-verbal, but only one man was the initiator of the suggestion which was finally accepted by the group. Sometimes the other members accepted an actor's suggestion by passive acquiescence and sometimes

there was heated argument. This measure, unlike initiation rate, counted non-verbal suggestions and cues of acquiescence.

The tables presented come from two basic types of data:

1. Who made a unique suggestion to follow a particular path;
2. Whose path was eventually followed for each group decision.

In cases where two players spoke favorably about the same path, the player first mentioning the path was credited with the suggestion.

A unique suggestion could be either a verbal statement or a physical gesture in which the individual indicates a clear preference for a specific path at that moment. A second suggestion from Subject 2 which incorporates the same direction mentioned by Subject 1 was not scored as "unique" unless Subject 2's suggestion added a unique direction to Subject 1's suggestion.

Table 6 presents the number of unique suggestions made by whites and blacks, ranked by their suggestion rate. Whites, on the whole, made more suggestions than blacks, but the first-ranking black made many more suggestions than the second-ranking white, on the average.

Table 6

Frequencies and Means of Unique Suggestions and Successful Influence Attempts for High Ranking and Low Ranking Suggestion-Maker: By Race

Rank in No. Unique Suggestions Made	Race	Unique Suggestions		Successful Influence Attempts	
		N	$\bar{X}$*	N	$\bar{X}$
1	Black	179	5.3	133	3.9
1	White	235	6.9	224	6.6
2	Black	91	2.5	33	1.0
2	White	130	3.8	84	2.3

*With two rounds in each game for each of 17 groups on which we could take this measure, there are 34 games on which this average is based.

Also presented in Table 6 is a measure determining who made the suggestion which was eventually followed by the group. The first player to suggest a path was credited with influencing the group regardless of how much or how little talking he did. The number of instances in which more than one person spoke for a suggested path was very few. The pattern of results on the "Successful Influence Attempts" measure is the same as that for "Unique Suggestions." Whites have more total suggestions accepted than blacks, but the frequencies and averages show that the first ranking black has a higher rate of success than the second-ranking white. Another important feature of this table is the mean difference between the first fank blacks and the first rank whites. This gap is noticably wider for "Suddessful Influence Attempts" than it is for "Unique Suggestions."

Table 7 shows the results of calculating a simple "batting average" of the number of times all persons in a given cell of the table had their suggestions win out, divided by the total number of unique suggestions these persons made. This ratio allows us to take into account the differential propensity to make unique suggestions when examining the success of influence attempts.

Table 7

Proportion of Unique Suggestions Made
Which Were Successful Influence Attempts:
Holding Constant Race and Suggestion Rank

Rank in No. Unique Suggestions Made	Race	% Successful Influence Attempts: # Successful Influence Attempts / # Unique Suggestion
1	Black	74%
1	White	95%
2	Black	36%
2	White	64%

Even taking differential suggestion rate into account, the overlapping rank ordering remains the same with the first-ranking black having a higher batting average than the second-ranking white. The prediction of a higher proportion of successful influence attempts for whites as compared to blacks, overall, is borne out.

Successful influence attempts were further subdivided into those which occured by simple acquiescence than by persuasion. Most suggestive is the finding that for all black subjects, 34% of all successful influence attempts occurred by persuasion while the percentage of successful white influence attempts by persuasion was 43%.

This type of difference in interaction style is further accentuated when we look just at contested decisions in which white and black both made one or more suggestions. Table 8 clearly shows that when there is a vigorous verbal interchange where both races participate, the white subject is much more likely to be successful.[3]

Table 8

Outcome of Contested Decisions in Which White and Black Both Made One or More Suggestions

Race	# Contested Decisions	Frequencies of Winning	% Times Won
Black	131	43	32.8
White	131	88	67.2

[3]The development of these measures of influence and the analysis of the influence data was carried out by Mark Lohman.

Relationship of Influence to Initiation

If we are indeed looking at an instance of a power and prestige order in interaction terms (described and operationalized by status characteristic theory), then influence and the tendency to initiate acts should be closely related. The theory states that power and prestige are highly correlated with influence over final group decision. In small group interaction studies, the person who does the most acting is typically the most influential. In order to carry out this analysis, the subject's rate of initiation and influence was broken into a "High," "Medium," and "Low" category. The initiation rate was defined in the following way: High = 60+ acts; Medium = 30-59 acts; Low = 0-29 acts. The influence rate is based on the number of successful influence attempts for each subject: High = 10+; Medium = 4-9; Low = 0-3. Table 9 shows the percentage of subjects with each type of influence rating for for each type of initiation rate. The level of association between the two rank orderings, as measured by the h test is .54.

Table 9

Relationship of Rank Orderings on Initiation and Influence Rates

Initiation Rate	% with High Influence	% with Medium Influence	% with Low Influence
High	69%	30%	8%
Medium	31%	44%	17%
Low	00%	26%	75%
	100% (N=13)	100% (N=27)	100% (N=24)

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Communication Channels Analysis

A most interesting way to look at the interaction pattern of the different groups is by examining the use of all the different potential communication channels. A diagram, very much akin to a sociometric diagram, may be drawn illustrating two very different patterns we see in these groups. Figures 2 and 3 show two selected groups, a typical white-dominated group and a typical black-dominated group. Note how the heavier lines indicate that more acts were directed between persons and thinner lines indicate lower frequencies of acts directed between persons.

Study of all these diagrams immediately suggested that in most groups there was very little communication between black subjects. Was this a very special feature of black subjects? If we could increase coalition behavior, would we be able to change the outcome of the groups? It became important to determine whether this was (1) a function of blacks preferring to direct their interactions to whites, regardless of what those whites said; or whether this was (2) a function of the difference in initiation rates between races that is so marked and that we have defined as the power evolving through group interaction.

First we looked more systematically at the usage of four communication channels. Interaction may be seen as occurring between whites, between blacks, or across races. Cross-race communication may be directed by one or the other of the blacks to one or the other of the whites. Conversely, it may be directed by one or the other of the whites to one or the other of the blacks. Table 10 gives the average percentage distribution of all acts occurring in each of four possible channels. (A percentage distribution was calculated for each group; then these were averaged for each type of communication channel.)

The Range of percentages occurring in different froups for each channel is also shown.

Table 10

Mean Percentage of Acts Occurring in Four Communication Channels: by Color of Initiator and Recipients

	Type of Channel			
	White-White	Black-Black	White-Black*	Black-White*
Mean % of All Acts in a Given Group Occurring in a Given Channel	$\bar{X}$ = 26.86%	$\bar{X}$ = 9.82%	$\bar{X}$ = 31.55%	$\bar{X}$ = 31.76%
Range of % of All Acts in a Given Group Occurring in a Given Channel	3.45%-58.60%	0.00%-26.67%	9.07%-44.26%	21.91%-45.80%

*We would expect more actions to occur in these cross-racial channels than in within-race channels because in these channels there are four potential actors and recipients as compared to two in the within race channels.

Note the comparatively low mean usage of black-black channels as well as the more limited range in comparison to white-white channels. It is also very interesting to see that, on the average, there is as much communication flowing in one direction across races as in the other. The probability of whites speaking to blacks does show a greater range than the opposite cross-race channel.

In order to answer the question as to the explanation for this persistently low usage of the black-black channels, we selected out <u>just those cases</u> where a black actor is faced by a white and a black actor. These two possible targets for interaction have the same Initiation Rate. In this way, we hold constant the activity level of the target person, so to speak, and see if there is a color preference, explaining direction of the black subject's remarks, <u>over and above</u> that which can be predicted through

simple initiation rate.

When we carry out this analysis, we find that the ideal test situation occurs eighteen times. Out of these cases, the white person gets a bigger share of the black's interaction ten times. The black person receives a bigger share of the black actor's output eight times, only slightly less often. Thus it would appear that the observed under-use of the black-black channel is only a function of the previous finding that in most groups, at least one black is relatively quiet and at least one white is comparatively active. If we change initiation rate, by any future treatment, we should see more use of the black-black channels.

Interaction Income

Thus far, rank order on initiation rate appears as the basic indicator of the status ordering of whites and blacks. In an attempt to see if there are some special features of black interaction beyond the differences in initiation rate, we can look at the number of acts a black receives, given a particular initiation rate as compared to a white. Previous studies show that only very high interactors receive as much as they give out. The less active members do not receive a return on their "investment" of verbal offerings within the group. This lack of reinforcement is felt to perpetrate the relatively lower tendancy to initiate. Is this situation even more pronounced for the blacks than it is for the whites?

In Table 11 we can examine the proportion, here called "Interaction Income," derived from Acts Received/Acts Initiated for whites and blacks in a particular interaction rate interval. Thus we can see if the return on a given investment is the same across racial groups who have approximately the same interaction rate. In this analysis the "Interaction Income" is computed

for each individual in a given interval of acts initiated. We then strike a mean for all the individuals in a cell.

Table 11

Mean Interaction Income for Black and White Subjects:
Holding Constant Number of Interactions Given

(Interaction Income = Acts Received/Acts Initiated)

No. of Interactions Given	Race of Actor			
	Mean Income	N	Mean Income	N
0-10	103.5	5	--	0
11-20	53.9	4	41.0	3
21-30	76.6	4	68.9	5
31-40	64.2	6	72.1	4
41-50	71.2	6	78.3	16
51-60	71.5	3	93.4	3
61-70	78.0	3	90.6	10
71-90	74.9	3	72.9	3
91+	--	0	82.6	3

A complex picture emerges. In the range we have called "Low Initiation Rate" (below 30), the black gets back more acts relative to his investment than the white. Of course, if you only give out with three acts, it is relatively easy to have acts received exceed acts initiated. In through the middle range, and a little higher, up to seventy acts, this trend reverses itself and the whites of a given interaction interval, receive more proportionately in acts than the blacks. As we would expect, from the studies, the "Interaction Income" tends to rise with number of acts given out.

Clinical Observations

Before going on to the interpretation, it is important to dwell on the role that study of the videotapes played in affecting our view of the results of this study. With ample opportunity to review and discuss these tapes from many different angles, several salient observations common to the research staff emerged which should be reported as "Results" because of their degree of influence on our thinking. We can illustrate many of these observations with the detailed notes based on the videotapes.

1. Most remarkable were the observable differences in the tendency of black and white subjects to rationalize and justify their suggestions. Blacks tended to offer short, clipped suggestions with a lot of non-verbal communication--meaningful looks, gestures of the hand. They handled the pointer a good deal more.

2. The black, making short suggestions and being unwilling to defend his point of view with a string of arguments, seemed at a great disadvantage with the talkative white. The whites, who were high interactors, were real task specialists, who offered a long string of arguments for their point of view, finally "talking their opponents" to death. The following excerpt from our field notes gives an excellent sketch of what this kind of situation was like:

Group 14 Ken (W) very talkative. Plots, plans, counts--involved. Argues back and forth with Jim(W). Points out nuances. Seems to want to be in control. Raises voice and talks faster when starts to be challenged.

Jim also very talkative. Good match for Ken, but doesn't insist on winning. Considerate of blacks.

Maurice (B) at several points tries to say something. Once tried strategy of Jim and Ken, i.e., giving verbal justification for his idea. He goes largely unanswered. Doesn't try anything like taking the pointer. Just watches when doesn't get response.

Donnell (B) very quiet, says virtually nothing except when Jim asks if he agrees. Then he nods or says O.K. Watches closely. Seems involved.

3. We were struck by the style of the most effective and assertive blacks. There were three black subjects who were "high" on both our Influence and Initiation measures. These were the same three boys whose behavior we would continually discuss in our efforts to isolate just what was so striking about "high status" black behavior. The fact was that, from what evidence we could gather, a "high status" and assertive black did not look like a "high status" and effective white. Because there were relatively few of these boys, we could not do an effective quantitative analysis of how their use of various interaction categories differed from the pattern of the assertive whites.

The best way to describe these three boys is "political." They did not seem to specialize in the task area the way that influential whites did and the way that leaders in small group studies in the past (typically Caucasion) have done. Rather they made a heavy use of giving action opportunities to others. They did a good deal of handing out negative evaluations to others with clever remarks, hiding their purpose with humor. Some blacks who were less effective than these three, used a style that only can be described as an implied physical threat, which brought success only in the very short run.

They emerge best from the field notes: Cornell, Dorell (who were, amazingly enough, twin brothers), and Gerald:

Group 10 Richi (W) starts off. Vic (W) adds something. Dorell (B) after all the discussion has his hands all over the board: "I think we ought to go this way." He moves.

Dorell starts to move in one direction. Wayne (B) and Richi

enter in with suggestions. Dorell suggests again. Others react negatively. Dorell gives the choice. "Do you want to go this way or this way?" Wayne moves the pointer.

Score turns out to be a minus." Dorell says to Wayne, "I told you not to do that." Dorell takes the pointer. Wayne agrees with the path.

Note the use of non-verbal behavior, the giving of action opportunities and the use of negative evaluation.

Group 8 All suggesting at this point. All involved. Gerald (B) starting to take over. George (W) makes a decision and Gerald warns him, "Now don't be wrong."

Pattern emerges of Gerald making final decision. Manipulates action by short comments, asking if "all agree?" and short arguments--or just deciding.

Game 2

Gerald is clearly the leader now. He passes out action opportunities. Runs the game by his question, "All agree?" after the particular suggestion that he likes. He has a staccato style of speaking and just saying the way things will be without elaborate explanations. Gives action opportunities and orders--junior politician--keeps track of the points and tells the others how well they are doing. He gives turn to each boy, but if he doesn't like it he overrules the move.

Group 9 Game 2

Tom (W) starts being more assertive. Suggests possible move. Paul (W) backs him up immediately. Cornell (B) points out all the minuses. He tells Earl (B) to look for all the minuses in the direction that Tom suggested. After apparently sufficiently showing that Tom's way had too many minuses, Cornell suggests complicated path. Asks each boy if they agree. All say O.K.

Cornell grabs pointer and starts to put in one direction. Paul (W) says, "Do you see how dangerous this is? Let's go this way." Cornell then returns to Paul, "Are you <u>sure</u> you want your way; it's very dangerous." Earl (B) says, "Yes, we better stick to the same one." They move in Cornell's direction.

Cornell has his hands all over the board. Paul and Tom now discussing. Cornell uses his same technique for knocking their ideas: "Are you sure? Look how dangerous."

> General Comment: Cornell is the "assertive black." He gives rationalizations for his choices, but they are in the form of short sentences. Uses techniques of pointing out minuses in other people's suggestions or asking them if they are really sure they want to go a certain way. He is definitely in control and seems to want to keep it that way. Others make suggestions but he passes out the evaluations. [4]

Unlike the whites we have often observed who become totally involved in the task and appeared quite insensitive to what others wanted to do or were doing, these three boys seemed very much aware of the by-play. With consumate skill, they shifted from one control technique to another. Their technique of assigning personal responsibility for the points gained or lost by the throw of the die, was never observed in the whites.

4. We were then especially impressed by the very different styles of black behavior, differing patterns among blacks and patterns of black behavior that did not appear with whites. There was a distinctive style of inactive black behavior as well. The voice was very soft. Suggestions were made very hesitantly. Frequently, the observers could hear these suggestions only when the tape was replayed; and no one else in the group of players heard them. Often a hand would go quite unnoticed. When it came time for an agreement, as instructed, this quiet person might be asked if he agreed. Other than that, it seemed very difficult for him to be loud or persistent enough to break into the stream of suggestions and counter-suggestions. These boys were so quiet that one wondered how lively they were, even in an all-black group. They remained involved in the game for a long time; and only after a very long "no-response" treatment from the other players did they sometimes totally withdraw.

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[4] These field notes are the work of Judith Spellman

The more active blacks, who fell short of the political style, tended to make many short suggestions, but did not give long speeches. They seemed to know how to plunge into the discussion, but were inhibited about stubbornly arguing for their way and did not resort to the non-task-oriented techniques used by the "high status" blacks.

INTERPRETATION

Basic Predictions

The basic predictions made in this study were confirmed by the data. The status ordering of the outer society was repeated, to a significant extent, in our small group setting. Whites were much more likely to be first and second rank in their groups in interaction rate. Blacks were much more likely to be third or fourth rank. On the influence measure, whites were more likely to be influential over the final group decision than were blacks. Furthermore there was a correlation between rank on influence and rank on initiation.

If we have captured essential elements of a planned, integrated situation, one can assume that our data mean that equal status interaction does not follow automatically from getting black and white boys together to work on an interesting new task. Much school integration, of course, differs because the school task is an old one where expectations for competence have already been set up; and we would expect that the effect of status would be even more compelling than in this study.

The status ordering of all groups did not repeat the status ordering in the outer society. Although the predictions were confirmed, it was clear that there were some black-dominated groups. Also, fairly frequently, there was at least one black in the group who was more influential than one white. We attribute this result to the fact that we are in a rapidly changing

historical period, with respect to the status of the blacks. Many blacks can no longer be selected as a good instance of a low status group. At least seven out of thirty-six black subjects in the study acted in a way that could roughly be called high status.

Actual Competence Differential

The result that gave us greatest pause for thought was the group of blacks who were extremely quiet as compared to the group of blacks who gave many suggestions, but did not persist with supportive argument. We may be dealing with two different kinds of subjects here who will respond to different types of treatment. The game situation can be seen as a rather competitive verbal situation. You have to know how to command the attention of others and get your suggestions listened to, or you may feel you are "talking to the wall." Those who made practically no suggestions may be individuals who are always inhibited in group discussion situations--even all-black situations. Group discussion requiring argument, persuasion, and concensus may be a task which is much more common in white culture than in black culture. These very quiet children may require, not only an increased sense of competence, in order to volunteer suggestions, but some actual training in generating verbal suggestions.

Now let us look at the moderately active black. In the tabulations presented on initiation, reception, and influence there were some remarkable features of this group which can be collected together to form an interpretation.

1. In the groups with a middle range of interaction (which contained many moderately active blacks), we did not find a mean difference in number of acts initiated between blacks and whites.

2. In actors with a middle range of initiation, we found that blacks showed a lower "Interaction Income" (acts initiated/acts received) than whites.
3. Among whites and blacks who were top rank suggesters in their groups, the mean difference in successful influence attempts was greater than the mean difference in number of unique suggestions.
4. When there was a vigorous verbal interchange in a contested suggestion, the blacks were especially likely to lose.
5. There was a somewhat higher tendency of whites, as compared to blacks, to attempt to influence by means of persuasion as opposed to acquiescence.

All of this comes together in an argument when we put together our clinical picture of the moderately active black, who makes short suggestions without a long string of defending arguments, with the above findings.

Remember that our scoring system counted as one unit a single suggestion or a suggestion plus some rationalizations offered by the suggester. When rationalizations are offered, it might raise the probability of a response to the person making the suggestion, thus raising the rate of reception of whites as compared to blacks. Because of the way we scored an initiated act, when we just look at acts initated in moderately active groups, we do not see a difference between the races, but the difference shows up in our analysis of reception of acts.

If you want to persuade someone of your point of view, one possible way is to give out with some arguments. If moderately active blacks are reluctant to do so, we can see why they do more poorly on "Successful Influence Attempts" than on "Unique Suggestions" and why they tend to lose out on contested decisions.

The very influential and effective blacks tended to prevent their suggestions from going unnoticed by giving negative evaluations of the other person's suggestions or by giving action opportunities to others in the group who might be possible allies. Summing up this interpretation we can speculate that, without the use of (1) extended argumentation (characteristic of active whites) or (2) special techniques of evaluation and control, blacks tend to lose out on the influence measure.

There is an alternative to the status characteristic interpretation of these results. Perhaps they are a function of actual differences in competence in the techniques of verbal exchange rather than status expectations. The argument runs as follows: Many of the black subjects have never learned how to persist with a series of verbal rationalization; therefore they are relatively easy to overwhelm with a flood of talk. Evidence for this point of view may be taken from their special disability in contested decisions and the observable style of short clipped suggestions without the long "if---then" line of argumentation found in some whites. It is assumed that group discussion requiring persuasion and concensus is a task more common in white social groups than in black groups of the same socioeconomic status. Even if <u>expectations</u> for competence are changed by a retraining procedure, this line of reasoning would predict failure to produce more influential and active behavior in black subjects unless certain skills for group discussion are improved.

Lack of competence might also function in <u>addition</u> to status characteristics. The approach to retraining given either of these two interpretations involves specific skill training in competent behavior on the game. The advantage of such a direct attack on retraining game behavior early in the research process is that it tells us whether it is possible to change the

marked imbalance in behavior in a short treatment.

At the present time an explanation based on status characteristics is a simpler and more powerful means of accounting for the data. The fit of the data to the theoretical predictions is quite persuasive and does not necessitate the assumption of cultural differences in sheer persistence and argumentation. The white subjects who did so much talking were not necessarily making very clever and elaborate arguments--they were simply doing a lot of talking. As in other small group research, he who does the most talking is likely to be the most influential. If in future studies behavior in the game is changed by simple manipulation of expectations for competence by blacks and whites, without any attempt to train for persistence in argumentation, the evidence for the explanation based on status characteristics will be quite convincing.

If the status characteristic interpretation is selected, then the theory's description of the building of the power and prestige order gives retraining ideas. The most obvious is to manipulate the expectations of participants by the introduction of another task before the game. A less obvious method is to interfere with the process at a later stage, during the period that evaluations reflect the crude amount of initiation of each participant. If the evaluation process could be changed so that group members are forced to evaluate the absolute goodness of the various suggestions, in a more objective manner, the evaluation would no longer parallel initiation rate and less talkative blacks might still receive a high evaluation.

The Use of the Game as a Baseline

The game task will continue to prove very useful, not only as a pre- and post-test for effects of training, but as a diagnostic instrument with which

we can select groups of people for training with a special pattern of response to this situation.

Because the different interaction categories relate to each other as the theory predicts, we seem justified in using intiation index as as an overall, highly reliable index of power and prestige. It would certainly seem advisable to continue the use of our influence measure as well, which gives us some special data on the extent to which persistent persuasion is used.

We were disappointed in our efforts to study the process of status diffusion over time. There were not enough data in the single round of a game to make a reliable analysis. We cannot, therefore, estimate how rapidly status diffusion takes place, In the next experiment, we have removed the pointer from the hands of the players. This has sharply decreased non-verbal by-play and has dramatically increased the amount of interaction. We have also altered the nature of the playing board, cutting out possibilities for setting a simple and straightforward course of action which only requires the players to decide to go the same way for four or five turns.

SUMMARY AND CONCLUSIONS

In this study the status ordering of a four-man group working on a task requiring discussion and decision was predicted on the basis of status characteristic theory. Two of the group members were white; two were black. They were matched as to age, height, and were also matched on a combined index of socio-economic status and attitude toward school. The difference in the value of the status characteristic of race proved to be associated with differences in rank order on the number of acts initiated, with the whites much more likely to have a higher rank in the groups than the blacks. The whites were also more likely to be influential in the making of group decisions than the blacks, especially where the decisions were contested.

In addition to some very quiet blacks who helped account for these marked overall results, there were many moderately active and influential black subjects and three black subjects who were both "High" on influence and intitiation. Some groups were clearly black-dominated. Certain differences in interaction style were noted between blacks and whites; and these differences suggested different retraining techniques that might be used.

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Phone Number: _____

Your Name: _____ Age: _____
First Last

Your Home Address: _____
Number and Street Town

Your School: _____ Your Grade: _____

How Tall are You? (If not sure, guess.) _____ _____
Feet Inches

How many brothers and sisters live with you? (Count in half-brothers and half-sisters or foster ones.)

_____

How many adults live with you? _____

Do you have a hobby? Yes _____ No _____

IF YES; What is it? _____

How far do you want to go in school?

_____ to quit as soon as I can

_____ to finish 9th grade

_____ to finish 10th grade

_____ to finish 11th grade

_____ to finish 12th grade

_____ to go to a college or university for a few years

_____ to finish 4 or more years of college

As far as you know are most boys and girls in your school from families that are better or worse off than yours?

_____ their families are much better off

_____ a little better off than my family

_____ about the same as my family

_____ much worse off than my family

When you grow up and have your own family how well off would you like to be?

_____ much better off than my family is now

_____ a little better off than my family is now

_____ about the same as my family is now

TURN TO NEXT PAGE

How Boys Your Age Feel About School

1. How often do you feel you <u>like school very much</u>?

   _____ always

   _____ most of the time

   _____ sometimes

   _____ hardly ever

   _____ never

2. Do you ever feel you <u>hate</u> school?

   _____ always

   _____ most of the time

   _____ sometimes

   _____ hardly ever

   _____ never

3. Do you have a <u>good time</u> at school?

   _____ always

   _____ most of the time

   _____ sometimes

   _____ hardly ever

   _____ never

4. Do you ever wish you <u>never</u> had to go to school?

   _____ always

   _____ most of the time

   _____ sometimes

   _____ hardly ever

   _____ never

5. Are there things about school you <u>like very much</u>?

   _____ I like everything about it _____ I like some things

   _____ I like most things _____ I like a few things

   _____ There's <u>hardly anything</u> about school I like very much

How Boys Your Age Feel About Going to a Four-year College or to a University

1. How much do you want to go to a college?

   _____ very much
   _____ pretty much
   _____ a little
   _____ not at all

2. Do you ever feel you can hardly wait until you get to college?

   _____ I feel that many times
   _____ quite a few times
   _____ sometimes
   _____ hardly ever
   _____ never

3. How sure are you now you really want to go to college?

   _____ very sure I want to
   _____ pretty sure I want to
   _____ not very sure I want to
   _____ not at all sure I want to
   _____ sure I don't want to

4. Do you think you would be unhappy if you didn't go to college?

   _____ would be very unhappy
   _____ would be pretty unhappy
   _____ would be a little unhappy
   _____ wouldn't be unhappy at all

5. Would you say you don't really care whether you go to college or not?

   _____ yes

   _____ no

6. How sure are you that you are going to college?

   _____ very sure I'm going
   _____ pretty sure I'm going
   _____ pretty sure I'm not going
   _____ very sure I'm not going

About Your Mother or the Person Taking Her Place

Answer these questions about your real mother if you live with her. If you are not living with your real mother answer them about the person you live with who is supposed to be taking her place. It may be a stepmother, foster mother, an aunt, or somebody else.
If you don't live with your mother or with a woman who is taking her place skip the questions in this section.

1. How far did she go in school?

   _____ grade 6 or less
   _____ grade 7,8,9,10, or 11
   _____ grade 12 (graduated high school)
   _____ went to college but didn't finish
   _____ finished college or more

2. Does she have a job outside the home?

   _____ yes, part-time
   _____ yes, full-time
   _____ yes, only in summer
   _____ no, she does not work outside the home

3. If she has a job, what is her job? _____
   _____ She does not have a job.

About Your Father or the Person Taking His Place

Answer the questions on this page about your real father if you live with him. If you are not living with you real father, answer them about the man you live with who is supposed to be taking his place. It may be a step-father, foster father, and uncle or somebody else.

If you don't live with your father or with a man who takes his place you can skip the questions in this section.

1. How far did he go in school?

   _____ grade 6 or less
   _____ grade 7,8,9,10, or 11
   _____ grade 12 (graduated from high school)
   _____ went to college but didn't finish
   _____ finished four years of college or more

2. Most of the time does he work for himself or for somebody else?

   _____ works for himself or has his own business
   _____ works for somebody else
   _____ I don't know what he does

3. What is his work or job most of the time?

   He _____

   _____

My number during the game was: _____ Date: _____

QUESTIONS AFTER THE GAME

1. Would you say that this game

   took more skill than luck? _____

   took about the same amount of skill and luck? _____

   took more luck than skill? _____

2. Do you think men working at jobs ever have to get together and make decisions like the ones you made during the game? _____

3. What sort of job might require a team effort like this? _____

   _____

4. Which of these feelings tells best about you during the game?

   _____ I felt it was quite important for the group to win the game with a high score.

   _____ Somehow I just couldn't care too much about whether we won the game or not.

5. How did you feel about your own part in the game?

   _____ It meant a lot to me to make good suggestions and have the boys agree with me.

   _____ Since it was a team job, I didn't think it mattered who made the suggestions.

   _____ I wanted to make more suggestions, but I just couldn't get a word in.

   _____ I didn't see that it made much of a difference what sort of suggestions I made.

6. Which boy made the best suggestions? Check one.

   _____ Boy 1; _____ Boy 2; _____ Boy 3; _____ Boy 4.

7. Which boy was most able to get the others to go along with him? Check one.

   _____ Boy 1; _____ Boy 2; _____ Boy 3; _____ Boy 4.

8. Which boy talked the most? Check one.

_____ Boy 1; _____ Boy 2; _____ Boy 3; _____ Boy 4.

9. Think about what each boy did to help win the game. Try to rank the boys from most helpful to least helpful. Put a "1" in front of the boy who did the most; put a "2" in front of the boy who did next to the best; put a "3" in front of the boy who was next; and put a "4" in front of the boy who was the least help to the team.

_____ Boy 1

_____ Boy 2

_____ Boy 3

_____ Boy 4

10. Would you be willing to come back and do something like this again?

_____ Yes

_____ Perhaps

_____ Probably not

11. Do you have anything else you would like to tell us about how you felt about playing the game?

_____

_____

_____

Thank you very much for all your help.

"KILL THE BULL"

"To win, remember two rules: One, work together--that means you must make all decisions as a team. Two, you have only fourteen turns with throws of the die to reach the goal and kill the bull.

"Of course, you will want to kill the bull and at the same time score as many points as possible along the way. You have to start at the starting point, and from there you may choose any path or direction--frontwards, backwards, any direction you decide upon as a team. For each move, you must indicate at least six squares. When you have decided which path to take, tell the host experimenter you are ready, and he will mark the path you have chosen and he will throw the die to determine how many squares you get to move.

"Here are a few hints which will help you score more points: The first thing to notice is that there are two different kinds of numbers in the squares: the blue numbers are plus points and the red numbers are minus points. When you land on a red number, you lose points. When you land on a blue number, you win points. The next things to notice are the red double plus and the red double minus signs. If you land on a square with a red double plus, you will get an extra turn. If you land on a square with a red double minus, you will lose a turn.

"The next thing to remember is that you can score more points as you move farther from the center of the board.

"There is a special path to reach the goal quickly--it is colored yellow--and it is called the "hot line." It is the quickest way to get to the goal but it has many more red numbers, so you take a big risk of losing points if you use it. However, if you have almost used up your fourteen turns and have to get to the goal quickly then you might want to use it anyway.

"Remember these main rules:

One, you must make all decisions as a team.

Two, you must kill the bull in 14 turns or you lose the game <u>no matter how many points you have</u>.

Third, the red numbers mean you win an extra turn; the red double minuses mean you lose a turn.

You may follow any path or direction to kill the bull. The farther you move from the center of the board the more points you can score, but the farther away you get from the goal. The hot line can help you to go more quickly.

"To help you remember these pointers, we have written them on a poster. You may look at the poster during the game if you have a question.

"Now you are ready to play "Kill the Bull." Remember you must make all decisions as a team. Now you can decide on your first move. Usually it is easier to plan your path one move at a time, so don't think that you have to plan your whole path at the very beginning. As soon as you have decided on the first six squares, tell the host experimenter and you will be on your way. Good luck!"